

NOVEMBER/DECEMBER 2024

**CMB52/FMB52 — AGRICULTURAL AND
ENVIRONMENTAL MICROBIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. How do you calculate bulk density of soil?
2. What is EC and what is the normal range of EC in soil?
3. Which bacteria play an important role in nitrogen cycle?
4. List any four microbes which is being used as biopesticide.
5. Differentiate Ammensalism and Commensalism.
6. What is phyllosphere?
7. Define aeromicrobiology.
8. Give examples for chemicals which are used in air sanitation.



9. Which types of bacteria are used in trickling filters?
10. Mention any four water borne diseases.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Tabulate different types of soil and its characteristics.

Or

- (b) Elucidate the different types of microflora in soil.

12. (a) Outline the steps involved in composting process.

Or

- (b) Elucidate the carbon cycle with neat sketch and add a note on role of microorganisms in it.

13. (a) What is the role of rhizosphere microorganisms in improving soil fertility?

Or

- (b) Give an account on virus which is pathogenic to plants.

14. (a) Write a short note on air borne diseases and its preventive measures.

Or

- (b) List the various air sampling techniques used in aeromicrobiology.

15. (a) Why coliforms are used as indicator organisms for assessing microbial quality of drinking water?

Or

- (b) Estuaries are highly productive ecosystem – Explain.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Write an outline on physical and chemical properties of soil.
17. Define biopesticides and add an account on its significance in sustainable agriculture.
18. What are microbial interactions? Explain its different types.
19. How will you enumerate the microorganisms in air?
20. Explain the various processes involved in the waste water treatment. Add a note on the significance of microorganisms.

